



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/549,749

09/21/2005

Takahisa Yamauchi

2611-0244PUS1

7061

2292 7590 04/03/2009
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

PEACHES, RANDY

ART UNIT

PAPER NUMBER

2617

NOTIFICATION DATE

DELIVERY MODE

04/03/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/549,749	Applicant(s) YAMAUCHI ET AL.	
	Examiner RANDY PEACHES	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/21/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. ***Claim1-20*** are rejected under 35 U.S.C. 102(e) as being anticipated by Avidor et al. (European Patent Application Number EP 1 168 868 A1).

Regarding ***claim 1***, Avidor et al. discloses A radio channel assignment method of employing a multicarrier TDMA (Time Division Multiple Access) system in which communication is performed using a specific carrier in each transmission/reception slot that is obtained through time division, and of assigning a transmission/reception slot and a carrier, as a radio channel, that satisfy desired quality to each mobile station, comprising:

- a table managing step of managing a frequency management table that includes groups each having a specific number of carriers that form a radio channel so as to be distributed over wide frequency bands. See paragraph [0043];
- cyclically measuring a received level of interference at the radio channel using an idle slot. See paragraph [0023-0025]; and

Art Unit: 2617

- holding results of measurement in order from a carrier at which the received level is lowest, by each of the groups in slots. See paragraph [0023 and 0047];
- a radio-channel-candidate deciding step of deciding a slot to be assigned and candidates for a carrier to be assigned in the slot to be assigned based on the frequency management table, when assignment of a radio channel is requested (re-request is also included. See paragraph [0050];
- a lowest-received-level-carrier selecting step of performing a carrier sense on the candidates for a carrier to be assigned in the slot to be assigned. See paragraph [0051-0054]; and
- selecting a carrier at which the received level is the lowest, out of the candidates. See paragraph [0054]; and
- a radio channel deciding step of comparing the received level at the carrier selected with a specific threshold value that is used to determine whether interference or interruption occurs See paragraph [0054]; and
- deciding the carrier selected as a carrier to be assigned when the received level is less than the specific threshold value. See paragraph [0051]

Regarding **claim 2**, according to **claim 1**, Avidor et al. continues to disclose wherein the table managing step further includes setting individual priorities in the groups in each of base stations that form a system. See paragraph [0047], and

Art Unit: 2617

- the radio-channel-candidate deciding step further includes searching (determining) each group of the slots based on the priorities. See paragraph [0047]; and
- deciding a slot to be assigned and candidates for a carrier to be assigned in the slot to be assigned, based on results of search. See paragraph [0046].

Regarding **claim 3** according to **claim 2**, Avidor et al. continues to disclose wherein as a result of comparison at the radio channel deciding step, if the received level at the carrier selected is not less than the specific threshold value, each group of the slots is searched (determined) again based on the priorities, and the process at the radio-channel-candidate deciding step is performed. See paragraph [0051].

Regarding **claims 4, 10 and 16**, according to **claim 2 and 10**, Avidor et al. continues to disclose wherein the radio-channel-candidate deciding step further includes a setting step of setting a carrier

- sense level that can be set stepwisely, to a predetermined level; and
- setting a group that is initially searched in the frequency management table as a group with the priority that is highest. See paragraph [0043]; and
- an assigned-slot deciding step of determining, in each slot, whether the received level at a head carrier of carriers assigned to the set group is below the set carrier sense level See paragraph [0050]; and

Art Unit: 2617

- if at least one of received levels of interference at head carriers is below the set carrier sense level; See paragraph [0050].
- deciding a slot having a head carrier at which the received level is the lowest, as a slot to be assigned. See paragraph [0051].

Regarding **claim 5, 8, 11, 14 and 17**, according to **claims 4, 7, 10, 13 and 16**, Avidor et al. continues to disclose wherein

as a result of determination at the assigned-slot deciding step, if there is no head carrier at which the received level is below the set carrier sense level, then it is further determined whether the priority of the set group is the lowest, and if the priority is not the lowest, then the priority of the set group is decreased, and the processes at the assigned-slot deciding step are performed again. See paragraphs [0051].

Regarding **claims 6, 9, 12, 15 and 18**, according to **claims 5, 8, 11, 14 and 17**, Avidor et al. continues to disclose wherein as a result of determination whether the priority of the set group is the lowest, if the priority is the lowest, then it is further determined whether the set carrier sense level is the maximum, if the set carrier sense level is not the maximum, the set carrier sense level is increased, the priority of the set group is set to the highest, and the processes at the assigned-slot deciding step are performed again, and if the set carrier sense level is the maximum, then assignment of a slot and a carrier is refused. See paragraph [0013].

Art Unit: 2617

Regarding **claim 7**, according to **claim 4**, Avidor et al. continues to disclose wherein if there is a plurality of slots each having a head carrier at which the received level is the lowest, the assigned-slot deciding step further includes deciding a slot, of the slots, in which a received-level measurement time is closest to a current time, as a slot to be assigned. See paragraph [0038].

Regarding **claim 8**, according to **claim 7**, Avidor et al. continues to disclose wherein as a result of determination at the assigned-slot deciding step, if there is no head carrier at which the received level is below the set carrier sense level, then it is further determined whether the priority of the set group is the lowest, and if the priority of the set group is not the lowest, the priority of the set group is decreased, and the processes at the assigned-slot deciding step are performed again. See paragraph [0051].

Regarding **claim 19**, according to **claim 2**, Avidor et al. continues to disclose wherein the radio-channel-candidate deciding step further includes selecting a predetermined number of carriers from a head of a group of which priority is highest in the slot to be assigned, determining whether received levels of interference at the carriers are less than a threshold level that is used to determine whether the carriers can be candidates for the carrier to be assigned, and if the received levels at all the carriers as determination targets are less than the threshold level, deciding the carriers as candidates for the carrier to be assigned. See paragraphs 0052 and FIGURE 2c.

Art Unit: 2617

Regarding **claim 20**, according to **claim 19**, Avidor et al. continues to disclose wherein as a result of determination whether the received level is less than the threshold level, if there is a carrier determined as the carrier at which the received level is not less than the threshold level, it is determined whether the received levels at carriers that form each of the groups are less than the threshold level, until the number of candidates for the carrier to be assigned reaches the predetermined number while decreasing the priority of the group. See paragraphs [0041-0043].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RANDY PEACHES whose telephone number is (571) 272-7914. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Randy Peaches/
Examiner, Art Unit 2617

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617